

**BECHTEL Opportunities in  
Information Systems  
and Services**



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INFORMATION SYSTEMS AND  
SERVICES**

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**August 1986**

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**INPUT**



## **INPUT**

- **Consulting, Market Planning and Market Research**
- **Technology Analysis and Forecasting**
- **Competitive Analysis, Product Analysis**
- **Due Diligence**
- **Acquisition Search**

**INPUT**



## **INPUT SERVICES**

- **Market Analysis and Planning Services**
- **Company Analysis and Monitoring Service**
- **Information Systems Program**
- **Customer Service Program**
- **Federal Information Systems and Services Program**
- **Western European Services**
- **Multilient Studies**
- **Proprietary Services, Consulting**

**INPUT**



## **SOME INPUT CLIENTS. . .**

- **AT&T, Amdahl, ADP, Babcock & Wilcox, Bell Atlantic, Blue Cross, Boeing, Booz-Allen, CIGNA, CINCOM, CSC, CDC, Cray, DG, DEC, EDS, GTE, GE, Grumman, Hewlett-Packard, Hogan, Honeywell, IBM, ICL, Levi-Strauss, Litton, Lockheed, MSA, Martin Marietta McDonnell Douglas, McKinsey, Mellon Bank, M-TECH, NCR, NAS, Northrup, NYNEX, Pansophic, Rand, Schering-Plough, SORBUS, SPERRY, SCT, SDC, TRW, Tandem, TRINTEX, VISA, Weyerhaeuser**

**INPUT**



## **SOME INPUT PROPRIETARY STUDIES. . .**

- **Develop a Business Plan Providing Processing Services to the Telephone Industry**
- **Develop a Strategy for Targeting the CIM Market**
- **Telecommunications Market Assessment of the Brokerage Industry**
- **Long-term Demand Forecast for KU Bank Satellite Capacity**
- **Marketing Strategy for a Value-added Network**
- **Business Plan for Data Services Division of Fortune 10 Company**
- **Acquisition Plan for 2 of Top 5 Banks in the U.S.**
- **Licensing Terms and Conditions for Software Products**

**INPUT**



## **SYSTEMS INTEGRATION EXPLOSION**

- **Traditional Businesses**
  - Emerging Systems Integration Component
  
- **Non-traditional**
  - Huge Opportunities: Banking, Finance, Medical, State and Local Government, Other Federal
  
- **Information Systems**
  - Systems Integration Opportunities for Very Large, Complex Systems
  
- **Networks**
  - Voice, Data, Image, Text Integration

**INPUT**



## **SYSTEMS INTEGRATION CHARACTERISTICS**

- **Strategic Value**
  - Seizing the Leadership in Systems Integration Has Immense Long-term Value
  - Company that Obtains Systems Integration Work often Gets the E & C Work too
- **Growth Value**
  - Huge Contracts: \$1 Billions Value Not Unusual; \$100 Million Value Common
- **Skill Value**
  - Developing and Maintaining State-of-the-art Skills in Systems Integration Is Necessary for Continued Well-being of BECHTEL Traditional Business Lines (Increasing Systems Integration Component)
- **Opportunity**
  - No One Has Leadership yet
  - AA, IBM Federal Systems, SDC Trying

**INPUT**



## **SYSTEMS INTEGRATION COMPONENTS**

- **Understanding of Industry Specific Processes and How They Can Be Integrated**
- **Systems Architecture (Design, Analysis, Simulation, etc.)**
- **Information Systems Integration (Hardware, Software, Networks, etc.)**
- **Complex Systems Management**
  - **Project Control/Scheduling/Cost Control**
- **Information Services Content (Professional Services, Facilities Management)**

**INPUT**



## **SYSTEMS INTEGRATION - BECHTEL STRENGTH**

- **Systems Integration Is What BECHTEL Does Best**
- **Systems Integration Is a Market that BECHTEL Cannot Ignore:**
  - **"\$100 Million"+ Projects**
  - **Strategic Importance to Clients**
  - **"Survival" Projects**
- **Teaming/Partnering Common for:**
  - **Extra-Large Projects (Risk Sharing, Good Politics, Expertise Complementarity)**
- **BECHTEL Should Adopt a Corporate-wide Systems Integration Thrust**

**INPUT**



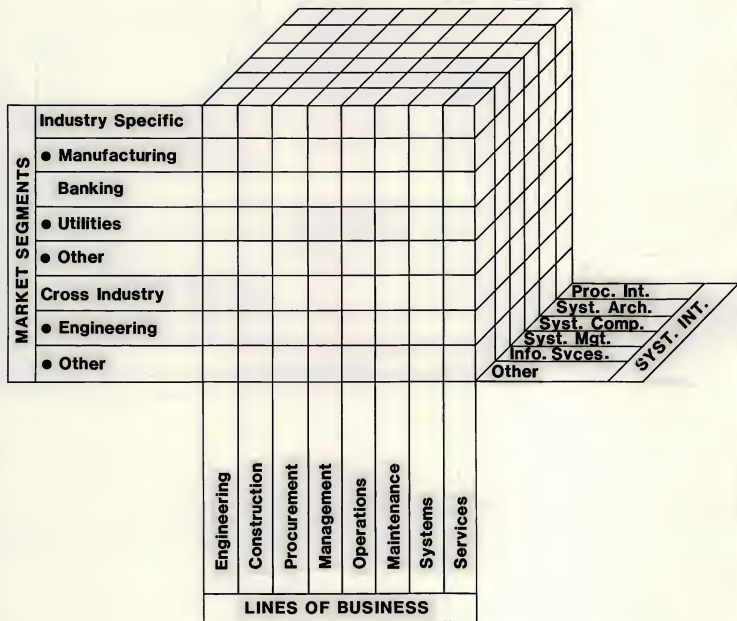
## **SYSTEMS INTEGRATION IN BECHTEL**

- **Systems Integration Present in All Current BECHTEL Lines**
  
- **Because Main Thrust of Operating Companies Is EPCM BECHTEL Will Lose many Systems Integration Opportunities.**
  
- **Outside World Needs to:**
  - **Hear about BECHTEL's Systems Integration Capabilities/Role**
  
  - **Have a single Contact Point for Discussions, RFP Delivery, Prequalification; also Image Promotion**
  
- **Responsibility for Systems Integration Projects that Fall into Charter of Business Lines Should Be Executed there; Systems Integration Projects that are Outside these Charters Should Be Information Services Responsibility**

**INPUT**



## SYSTEMS INTEGRATION MARKET MATRIX





## CAVEAT

- BECHTEL Must Avoid Common Mistake of Confusing Technology Markets with Real Opportunities (i.e., Technologies Are Tools for Problem Resolution - and the Tools Are Constantly Changing)

### BECHTEL's Strengths Are In:

- Human Resources Management
- Project Management/Cost Control

### What Is Needed Is Focus on:

- Dedicated Marketing
- Systems Integration Thrust

INPUT



## SYSTEMS INTEGRATION MARKET

Everybody Wants in . . . Some Unlikely Teams  
Emerging because of Lack of Leadership

- TRW "Selected" by GM/EDS (for Certain GM Internal Projects!)
- GE/FANUC Targeting Manufacturing
- INTEL Targeting Banking/Finance(?)
- AA and Impact Vendors(!)

INPUT



## **SYSTEMS INTEGRATION IS STRATEGIC. . .**

- **Understand the Processes which Drive the Industry (and the Client) in Question**
- **Define Long-term Plan for Process(es) Improvement/ Upgrade through Application of Technology (Computers, Networks, Automation, etc).**
- **Help Define Project Specifications, Systems Architecture, Performance Specifications, etc.**
- **Develop/Maintain Long-term Customer Relations, On-going Support**

**INPUT**



## **PROJECT MANAGEMENT IS TACTICAL. . .**

- **Execute a Task, Implement a Specification**
- **Process Automation, Application of Technology**
- **Customer Relations Defined by/Limited to Project Duration**

**INPUT**



## **COMPLEX PROJECT MANAGEMENT IS ONLY PART OF SYSTEMS INTEGRATION**

- **The Complete Project Management of Major, Multi-disciplinary Requirements that May Include Multiple Business Lines from BECHTEL, Teaming Arrangements with Outside Suppliers of Products and Services and the Provision of Hardware, Software, Systems, Networks and Human Resources, Is Only Part of Systems Integration:  
Examples include:**

- **Telecommunications (e.g. FTS 2000)**
- **CIM (CAD/CAM, Robotics, MRP II, AGVS, etc.)**
- **Energy Production (SCADA)**
- **Aerospace (e.g. Northrup)**
- **Federal Government (e.g. FAA)**

**INPUT**



## **TWO THRUSTS**

- **Within Traditional Business Lines Pursue Systems Integration Opportunities in Major Accounts that Are Not Being Captured. Lead: R & D**
- **In Non-traditional Areas Evaluate Systems Integration Opportunities that Are Market Growth Areas for Development. Lead: Information Services**

**In Both Cases Promote a Unified Systems Integration Image to Outside World.**

**INPUT**



## **PREREQUISITES**

- **Objectives Selection/Definition**
- **Skills/Numbers/Systems Inventory**
- **Funding Commitment**
- **Organization Evaluation**
- **Sytems Integration Business Plans**

**INPUT**



## EXTERNAL INFLUENCES

- Increased Information Processing and Automation Content in BECHTEL Businesses.
- Industries That BECHTEL Serves Are Big Users of Leading Edge Technologies:
  - Aerospace
  - Federal
  - Energy
  - Automotive
- BECHTEL Must Lead in Understanding, Using and Dominating these Technologies. This Must Lead to Visible, Corporate-wide Implementation/Use of Same.

INPUT



# **Draft Information Services Business Plan**

**INPUT**



## **ROLE OF BECHTEL INFORMATION SERVICES**

- **Internal:**      **Meet the Human Resources and Information Processing Needs of BECHTEL Business Lines.**
- **External:**    **Participate in the \$40 Billion Information Services Market for Growth, Profit and Knowledge/Skills Acquisition.**
- **Focus:**        **Maximize the Systems Integration Opportunities Now Emerging in Traditional Business Lines and Elsewhere.**

**INPUT**



## **INTERNAL MISSION**

- **Provide Support and Information Services to BECHTEL Business Lines during All Phases of Project Life:**
  - **Bid/Simulation Support**
  - **Conceptual Design Support/Processing**
  - **Systems Integration Processing**
  - **Information Systems**
  - **Human Resources**
  - **Information Services**

**INPUT**



## **EXTERNAL MISSION**

- **Leverage Existing Skills into New Business Lines; Pursue People/Skills Acquisition Needed for Internal Mission; Lay Off Overhead for Internal Mission by Participating in Commercial Market**
  - **Systems Integration Skills**
  - **Project Management Skills**
  - **Facilities Management**
  - **Professional Services**
  - **Processing Services**

**INPUT**



## **ROLE OF INFORMATION SERVICES/R & D**

- **Evaluate Productivity/Project Management/Cost Control Tools**
- **Standardize (Where Possible)**
- **Identify New, Large Systems Integration Opportunities in Non-Traditional Markets**
- **Identify BECHTEL Opportunities in Systems Integration Markets Where Information Systems Are All or Major Part of Project**
- **Pursue Operations-oriented Businesses that Complement Systems Integration Projects (e.g. Consulting, Facilities Management, Processing Services)**

**INPUT**



## **INFORMATION SERVICES OBJECTIVES**

- **Assist in the Implementation of Standardized Systems for BECHTEL Internal Use**
- **Reduce Overhead and Contribute to BECHTEL Profit by Targeting External Information Services Markets**
- **Hone Existing BECHTEL Information Systems Skills and Develop/Acquire New Ones by Pursuing Systems Integration Opportunities**

**INPUT**



## **IMPLEMENTATION OF STANDARDIZED SYSTEMS FOR BECHTEL INTERNAL USE**

- **Common/Standardized Systems Require Clear Application Specs., Data Definitions, and an Implementation Team. This Is an On-going Process Not a Project.**
- **Information Services Can Act as Coordinator and Clearinghouse for Specs., and Human Resources for Above.**

**INPUT**



## EXTERNAL INFORMATION SERVICES MARKETS

- Many Markets Open:

| <u>TYPE</u>                         | <u>COMMENT</u>                                                                                                                                                   |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| - Processing Services               | <ul style="list-style-type: none"><li>- Sale of Extra Capacity</li><li>- Transitory Opportunity</li><li>- Little Future; Low Margin</li></ul>                    |
| - Consulting/Professional Services  | <ul style="list-style-type: none"><li>- Good Future; Good Margin</li><li>- On-going Opportunity</li><li>- Short-term Contracts</li></ul>                         |
| - Facilities Management             | <ul style="list-style-type: none"><li>- Long-term Contracts</li><li>- "Base Load" Opportunity</li><li>- High Dollar Volume; Low Margin</li></ul>                 |
| - Horizontal Market Turnkey Systems | <ul style="list-style-type: none"><li>- e.g. Project Mgmt., Resources Mgmt. (P2, MLCS)</li><li>- Generates Man/Hrs. Requirements</li><li>- Good Margin</li></ul> |
| - Software Products                 | <ul style="list-style-type: none"><li>- In-house Packages</li><li>- Outside Strategic Scope</li><li>- High Margin</li></ul>                                      |

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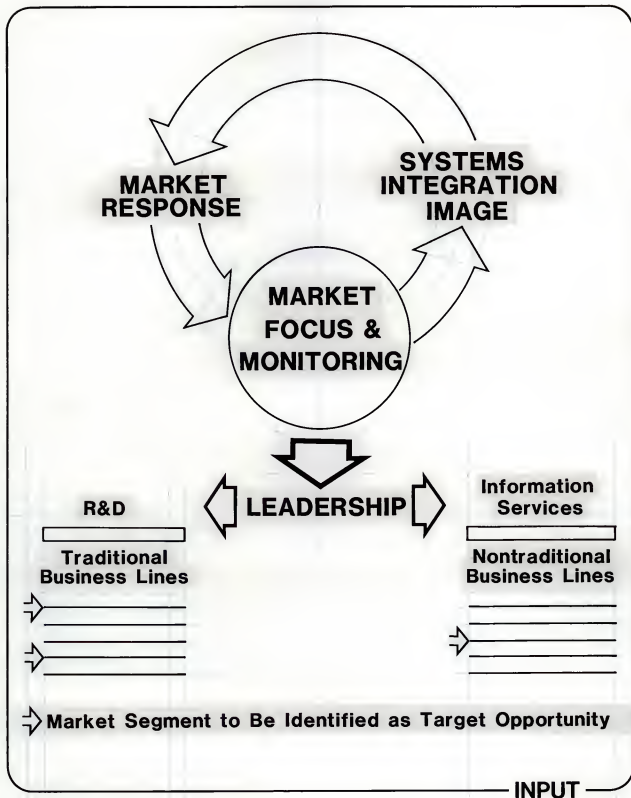


## **SYSTEMS INTEGRATION MARKETS**

- **Act as Focal Point for Attracting External Systems Integration Business and Promoting BECHTEL Systems Integration Image**
  
- ( ● **R & D Should Pilot Systems Integration Business that Lies within Territories of BECHTEL Business Lines** )
  
- **Drive Search/Be Responsible for Systems Integration Projects in Non-traditional BECHTEL Markets:**
  - **Banking/Finance**
  - **Medical**
  - **State and Local Government**
  - **Other Federal Government**

**INPUT**



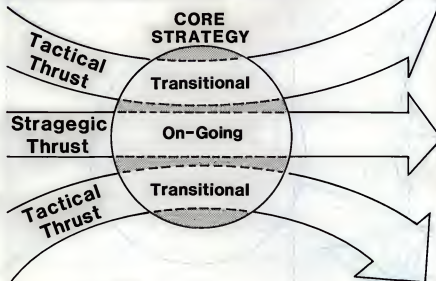




## RECOMMENDED DIRECTION

### Short Term

- Bootstrap Launch



### Long Term

- Strategic Position

### STRATEGIC PLAN

Systems  
Integration  
for  
Traditional  
and  
Nontraditional  
Markets

INPUT



## PRELIMINARY FORECAST ESTIMATES

### Information Services

|                                                 | Now                  | 1991                 |
|-------------------------------------------------|----------------------|----------------------|
|                                                 | <u>(\$ Millions)</u> | <u>(\$ Millions)</u> |
| ● Processing Services/FM<br>(e.g. Transamerica) | \$2                  | 10                   |
| ● Consulting/<br>Professional Services          | *                    | 20                   |
| ● Facilities Management<br>(e.g. Hanford)       | *                    | 50                   |
| ● Turnkey (e.g. P2, MLCS)                       | *                    | 15                   |
| Subtotal                                        | \$2                  | \$95                 |

\* = None/Small

INPUT



## PRELIMINARY FORECASTS (Cont.)

|                        | <u>Now</u><br><u>(\$ Millions)</u> | <u>1991</u><br><u>(\$ Millions)</u> |
|------------------------|------------------------------------|-------------------------------------|
| ● Information Services | \$2                                | \$95                                |
| ● Systems Integration  | *                                  | \$300                               |
| Total                  | \$2                                | \$395                               |

Notes: (1) Information Services Total Would Be Less than 1/10% of Total Market.

(2) Systems Integration Total Would Be Less than 1/5% of Total Market.

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